

ABSTRACT

Light weight composites with high flexural strength comprise epoxy foam sandwiched between two layers of facing material have high strength and low weight and can be used to replace steel structures. The facing layer may be fibrous material especially glass or carbon fibres, the facing material is preferably embedded into the epoxy matrix. Alternatively they may be matching box structures or concentric metal tubes. The sandwich structures may be prepared by laying up the fibre; coating and/or impregnating the layer with epoxy resin, laying a layer of heat activatable foamable epoxy material, providing a further layer of the fibrous material optionally coated and/or impregnated with epoxy resin on the foamable material and heating to foam and cure the epoxy materials. Alternatively they may be formed by extrusion of the foamable material between the surface layers.